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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.     | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------|------------------|
| 09/937,550  | 12/12/2001  | Jean-Pierre Pascault | CV-31588                | 2291             |
| 22202   | 7590        | 09/02/2003           |                         | EXAMINER         |
| WHYTE HIRSCHBOECK DUDEK S C<br>111 EAST WISCONSIN AVENUE<br>SUITE 2100<br>MILWAUKEE, WI 53202 |             |                      |                         | WILSON, DONALD R |
|   |             |                      | ART UNIT                | PAPER NUMBER     |
|   |             |                      | 1713                    |                  |
|   |             |                      | DATE MAILED: 09/02/2003 | //               |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                              |
|------------------------------|------------------------|------------------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b>          |
|                              | 09/937,550             | PASCAULT ET AL.<br><i>of</i> |
|                              | <b>Examiner</b>        | <b>Art Unit</b>              |
|                              | Donald R Wilson        | 1713                         |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 31 July 2003.
- 2a) This action is FINAL.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-21 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> | 6) <input type="checkbox"/> Other: _____                                    |

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**DETAILED ACTION*****Election of Species Requirement***

1. Applicant's election with traverse of the species of:
  - a. the cross-linked particles of Example 2 as the cross-linked polymer microparticle characterized by the monomeric units and remaining functional groups which are present i.e., is a copolymer of octadecyl acrylate, n-butyl acrylate, glycidyl methacrylate and hexanediol diacrylate, which has been partially acrylated with acrylic acid, and
  - b. the thermosetting epoxy/amine molding composition of Example 11 as the Reactive systems of the thermosetting composition, i.e., a bisphenol A diglycidyl ether, and 4,4'-methylene-bis(3-chloro-2,6-diethylaniline) (MCDEA) composition,
- in Paper No. 10 is acknowledged. The traversal is on the ground(s) that this is a national stage of a PCT application and unity of invention was satisfied in that application. Further, that Article 27(1) does not allow any national law to require compliance with requirements related to the contents of the International application different from or additional to those provided for in PCT. This is not found persuasive because the Examiner is not bound to the same finding as was made in the International application. Further, the Examiner has provided a reason for lack of unity consistent with PCT Rules 13.1 and 13.2, and applicant has not traversed the merits of the reason for finding a lack of unity. Secondly, applicant argues that, "Unity of invention has to be considered in the first place only in relation to the independent claims in an international application and not the dependent claims", citing Annex B Unity of Invention. This is not deemed to be persuasive because applicant has ignored the meaning of "in the first place" and has not considered the subsequent paragraph (c)(i), (c)(ii) and (c)(iii), which clearly gives a basis for the finding of lack of unity as applied by the Examiner. Applicant has also argued that there are no separate claims to "microparticle", which is not deemed to be persuasive because the Examiner has not required a separation of claims to microparticles
2. The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 112, Second Paragraph***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

5. The languages of Claims 1, 2, 5, 6 and 9 are indefinite because of the languages "can react" (1), "can react" (2), "can be substituted" (5), "can comprise" (5), "the possibility of" (6), and "if appropriate" (9), which makes it unclear as to if and when the events occur. If conditional language is required, then it is suggested that the language "optionally react", "optionally react", "optionally are substituted", "optionally comprise", "optionally", and "optionally", respectively, be substituted. Otherwise positive language such as "reacts" as opposed to "can react" should be used.

In *Ex parte Cordova*, 10 USPQ2d 1949 (Bd. Pat. App. & Inter. 1989) the language "containing A, B, and optionally C" was considered acceptable alternative language because there was no ambiguity as to which alternatives are covered by the claim. A similar holding was reached with regard to the term "optionally" in *Ex parte Wu*, 10 USPQ2d 2031 (Bd. Pat. App. & Inter. 1989).

6. Claim 2 is further indefinite because of the language "same type", the metes and bounds of which cannot be determined. Further, if the functional group reacts with a functional group of the same type, then presumably it would also react with itself.

When appended to an otherwise definite expression, "type" so extends the scope of the expression as to render it objectionably indefinite. *Ex parte Copenhaver*, 109 USPQ 118.

7. Claim 3 is indefinite because of the language "by the radical route or by a specific reaction". What is included in or meant by "specific reaction", which apparently doesn't include radical reactions, is unclear.

8. Claim 5 is indefinite because the metes and bound of "such as OH", in the definition of "R<sup>2</sup>", can not be told.

The term "or like material" in the context of the limitation "coke, brick, or like material" was held to render the claim indefinite since it was not clear how the materials other than coke or brick had to resemble the two specified materials to satisfy the limitations of the claim. *Ex parte Caldwell*, 1906 C.D. 58 (Comm'r Pat. 1906).

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The claim is further indefinite because of an improper Markush group at the end of the claim for the f2 reactive functional group. This could be overcome by inserting "group consisting of" following "from" and changing "or" to "and" in the last line.

9. Claim 7 is indefinite because the Markush group of "f2' functional groups" includes some functional group members, i.e., vinyls and dicyclopentadiene unsaturations, but the remaining members are compounds as opposed to functional groups.

10. Claim 9 is further indefinite because a clear meaning of "(cyclo)aliphatic" cannot be made. The parentheses makes it unclear as to whether applicant means "cycloaliphatic" or "aliphatic or cycloaliphatic".

11. Claim 11 is indefinite because the meaning of sub paragraph "iii" is unclear. Perhaps there is an "or" missing at the end of the 7<sup>th</sup> line of the paragraph.

***Claim Rejections - 35 USC § 102(b)/§ 103(a)***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. ***Claims 1-2, 4, 9-10 and 17-21 are rejected under 35 U.S.C. 102(b) as anticipated by or in the alternative, Claim 4 is rejected under 35 U.S.C. 103(a) as obvious over Roth.***

16. Roth discloses compositions containing a microgel having carboxylic acid groups in an amine curable epoxy resin system, and cured products therefrom (col. 1, lines 5-11). Especially preferred microgels are copolymers of at least one unsaturated carboxylic acid, at least one monomer without carboxylic acid function and a multifunctional cross-linker (col. 2, lines 17-20). This is exemplified for instance by a copolymer of methacrylic acid, ethyl acrylate, methyl methacrylate, ethylene glycol dimethacrylate and trimethylolpropane trimethacrylate, having a particle size of approximately 65 nm (Example I.2 and II.2). Example III.2 exemplifies an epoxy resins system containing the elected specie of a diglycidyl ether of bisphenol A, approximately 7.5 wt.% of said copolymer, and 2-ethyl-4-methylimidazole as the amine curing agent. In that the particles "carry" the imidazole, the microparticles carry at least one second reactive functional group distinct from the first functional group. In regards to the product by process language of Claim 4 for preparation of the microparticles, it isn't seen that the method of preparation results in a patentable distinction in the microparticles.

When the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim it is appropriate for the examiner to make a rejection under both the applicable section of 35 USC 102 and 35 USC 103 such that the burden is placed upon applicant to provide clear and convincing factual evidence that the respective products do in fact differ in kind - *In re Brown*, 59 CCPA 1063, 173 USPQ 685 (1972); *In re Fessman*, 180 USPQ 324 (CCPA 1974) - and to come forward with evidence establishing unobvious differences between the claimed product and the prior art product. *In re Marosi* 218 USPQ 290.

17. The compositions are taught to be useful as coating compounds and encasing systems fro electrical and electronic systems, and laminating resins (col. 8, lines 44-49).

18. ***Claims 1-2, 4, 9-10 and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roth as applied to claims 1-2, 4, 9-10 and 17-21 above, and further in view of Althaus.***

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19. In regards to the elected specie of diamine, MCDEA, Roth teaches the use of aromatic amines as the curing agent but is deficient in specifying a specific aromatic amine (col. 3, lines 32-38). However, it is known that many aromatic amines are mutagenic, whereas MCDEA is known to be a cross-linking agent for epoxy resins and to be non-mutagenic (Claim 1, col. 3, lines 37-46). It would have been obvious to one of ordinary skill in the art to use MCDEA as the curing agent in the epoxy compositions of Roth in order to avoid the use of mutagenic aromatic amines.

20. *Claims 1-2, 4, 8, 9 and 17-21 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as obvious over Kanda.*

21. Kanda discloses compositions comprising microparticles having therein a cross-linking promoter, a diameter of 0.01 to 9  $\mu\text{m}$ , prepared from ethylenically unsaturated comonomers (col. 2, lines 3-8). Systems containing the microparticles include epoxy resins cured with hardeners having amino groups (col. 3, lines 40-46), which are exemplified by the elected specie of a diglycidyl ether of bisphenol A in combination with a melamine curing agent (Example 9). The microparticles of Example 9 have a particle size of 50 nm, are a copolymer of butylacrylate/styrene/2-hydroxyethyl acrylate, ethylene glycol dimethacrylate and 2-acrylamide-2-methylpropanesulfonic acid (Example 2), which are added in an amount of 10 pbw per 75 pbw of the curable resin components. The microparticles are dispersible in the resin and the hydroxy ethyl group can react with the epoxy group.

22. Although the microparticles of Example 2 are made in an aqueous system preparation of microparticles in a non-aqueous system to form non-aqueous dispersions are also taught (col. 5, lines 11-19). Thus, it would have been obvious to one of ordinary skill in the art to use a non-aqueous dispersion with the expectation of equivalent success. Alternatively, it isn't seen that the method of preparation results in a patentably different distinction in the microparticles.

23. When amine type hardeners are used the particles contain an acid promoter, and acids such as phthalic or oxalic acid are specifically taught for this purpose (col. 3, lines 13-27, 40-46). It would have been obvious to one of ordinary skill in the art to include such an acid as a promoter in the microparticles for amine cured epoxy resins.

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24. The compositions are taught to be useful in coating compositions. (col. 1, lines 10-14). Any further limitations of Claims 17-21 are seen as intended uses which are not seen to impart patentability to the claimed coating compositions.

Intended use recitations and other types of functional language cannot be entirely disregarded. However, in apparatus, article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963) (The claims were directed to a core member for hair curlers and a process of making a core member for hair curlers. Court held that the intended use of hair curling was of no significance to the structure and process of making.) See M.P.E.P. § 2111.03.

25. ***Claims 1, 3-4, 8, 14-15, and 17-21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, Claim 4 is rejected, under 35 U.S.C. 103(a) as obvious over Asanaka.***

26. Asanaka discloses compositions comprised of cross-linked particulate resins containing ethylenic unsaturated bonds and average particle sizes of 0.07-0.12 µm (10-120 nm) (see Examples 1-6). The particles are dispersed in either an unsaturated polyester or vinyl ester resin and then molded (see Examples 7-14). The compositions are also useful as radical curing coating materials (col. 1, lines 27-34). The amounts of the particulate resin used are 5-30 parts per 100 parts of thermosetting resin (col. 10, lines 29-32).

#### ***Obviousness Double Patenting Rejection***

27. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

28. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

29. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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30. ***Claims 1-21 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claim 30 of U.S. Patent No. U.S. Patent 6,586,097***

**(hereinafter Pascault)** The claims of Pascault are directed to microparticles such as are used in the compositions of the instant invention. In Claim 30 Pascault claims their use in cross-linkable coatings. Cross-linkable coatings would be known by one of ordinary skill in the art to include conventional systems such as are instantly claimed, and read in light of the specification would be known to include epoxy/amine systems (e.g., Examples 28-38).

***Evidence of Common Ownership***

31. Claims 1-21 are directed to an invention not patentably distinct from claim 30 of commonly assigned Pascault, for reasons discussed above in the obviousness double patenting rejection.

32. The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302). Commonly assigned Pascault, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee is required under 37 CFR 1.78(c) and 35 U.S.C. 132 to either show that the conflicting inventions were commonly owned at the time the invention in this application was made or to name the prior inventor of the conflicting subject matter. Failure to comply with this requirement will result in a holding of abandonment of the application.

33. A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications filed on or after November 29, 1999. See MPEP § 706.02(l)(2) II for evidence required to show common ownership.

***Objection to Abstract***

34. The abstract of the disclosure is objected to because it contains more than one paragraph.

Correction is required. See MPEP § 608.01(b).

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***Art of Interest/Tecnological Background***

35. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. As discussed in the previous Office Action, the compositions of Asanaka anticipate at least claim 1 of the instant invention. A rejection over Asanaka is not made at this time because it is not directed to species under consideration. However, it may be the basis of a future rejection over non-elected species of the invention.

***Future Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald R Wilson whose telephone number is 703-308-2398.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 703-308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications. The unofficial direct fax phone number to the Examiner's desk is 703-872-9029.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-2351.



Donald R Wilson  
Primary Examiner  
Art Unit 1713